

REMARKS

Claims 1 through 9 and 11 through 20 are pending in this Application, of which claims 15 through 20 stand withdrawn from consideration pursuant to the provisions of 37 C.F.R. § 1.142(b). Applicant acknowledges, with appreciation, the Examiner's allowance of claims 13 and 14, and the Examiner's indication that claim 12 contains allowable subject matter. Accordingly, the only remaining issue pivots about the patentability of claims 1 through 9 and 11.

Claims 1 through 9 and 11 were rejected under 35 U.S.C. § 103 for obviousness predicated upon Okajima et al.

In the statement of the rejection the Examiner admitted that Okajima et al. do not disclose that the thickness of the light-emitting layer is larger than the thickness of the underlayer. Then, without the support of any objective evidence, the Examiner asserted that the thickness of the light-emitting layer affects the light transmission intensity. From there the Examiner leaped to the conclusion that one having ordinary skill in the art would have been motivated to form the light-emitting layer at a thickness greater than that of the underlayer for better light-emitting brightness and efficiency, again without the support of any objective evidence. This rejection is traversed as factually and legally erroneous.

It is fundamental that rejections under 35 U.S.C. § 103 must be based upon facts, not unsupported assertions or speculation. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Freed*, 425 F.2d 785, 165 USPQ 570 (CCPA 1970); *In re Warner*, 379 F.2d 1011,

154 USPQ 173 (CCPA 1967); In re Lunsford, 357 F.2d 385, 148 USPQ 721 (CCPA 1966). The Examiner's rejection is long on assertions but short on facts.

Initially, it is not apparent and the Examiner failed to identify wherein Okajima et al. disclose or suggest the use of a compound semiconductor of Group IIa-VIb as a phosphor thin film to begin with. On this basis alone the rejection cannot stand.

It is well settled that the Examiner bears the initial burden of identifying a basis in the applied prior art for every claim limitation as well as a factual source of motivation. *Smiths Industries Medical System v. Vital Signs Inc., 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999).* That burden has not been discharged. Indeed, it is not apparent and the Examiner conspicuously failed to point out wherein Okajima et al., the only applied reference, disclose or remotely suggest that **the relationship** between the light-emitting layer and the underlayer is an art-recognized result effective variable. Therefore, it is illegally erroneous to conclude that one having ordinary skill in the art would have been realistically motivated to optimize the **relative** thickness of these two layers. *In re Rijckaert, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); In re Yates, 663 F.2d 1054, 211 USPQ 1149 (CCPA 1981); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).*

Further, advertent to column 2 of the Examiner's reference to Okajima et al., lines 45 *et seq.*, it is disclosed that it is important to **limit** the thickness of the phosphor film between 1 nm and 50 nm in order to sufficiently confine the electrons and holes and to have suitable emission intensity. This relevant evulcation is not only a far cry from a teaching to increase the thickness of the light-emitting layer so that it is greater than that of the underlayer, but is inconsistent with the assumption underpinning the Examiner's rejections.

Moreover, and quite significantly, advertent to Fig. 3, the underlayer has a thickness of 70 nm; but the light-emitting layer has a thickness of 10 nm (column 4, lines 41 through 46). Furthermore, advertent to the first disclosed embodiment, the underlayer has a thickness of 200 nm; however, the light-emitting layer has a thickness of 20 nm (column 3, lines 26 through 32). Additionally, in the second embodiment, the underlayer has a thickness of 200 nm; but the light-emitting layer has a thickness of 10 nm (column 3, lines 60 through 64).

Based upon the foregoing it should be apparent that not only do Okajima et al. fail to suggest that the light-emitting layer should have a thickness greater than that of the underlayer, Okajima et al. clearly **teach away** from any such structure. This **clear teaching away** from the claimed invention by the only applied reference constitutes a potent indicium of **nonobviousness**. *Ecolchem Inc. v. Southern California Edison, Co.*, 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000); *In re Bell*, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); *Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 6 USPQ2d 1601 (Fed. Cir. 1988); *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986); *In re Marshall*, 578 F.2d 301, 198 USPQ 344 (CCPA 1978).

Based upon the foregoing it should be apparent that the Examiner failed to establish a *prima facie* basis to deny patentability to the claimed invention under 35 U.S.C. § 103 for lack of the requisite factual basis and want of the requisite realistic motivation. Moreover, upon giving due consideration to the **teaching away** from the claimed invention by the only applied reference to Okajima et al., the conclusion appears inescapable that one having ordinary skill in the art would **not** have found the claimed subject matter **as a whole** obvious within the meaning of 35 U.S.C. § 103. *In re Piasecki*, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984).

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Applicant, therefore, submits that the imposed rejection of claims 1 through 9 and 11 under 35 U.S.C. § 103 for obviousness predicated upon Okajima et al. is not factually or legally viable and, hence, solicits withdrawal thereof.

Applicant again acknowledges, with appreciation, the Examiner's allowance of claims 13 and 14 and the Examiner's indication that claim 12 contains allowable subject matter. Based upon the arguments submitted *supra*, it should be apparent that the imposed rejection has been overcome, and that all active claims are in condition for immediate allowance. Favorable consideration is, therefore, solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Arthur J. Steiner
Registration No. 26,106

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 AJS:bjs:ntb
Facsimile: 202.756.8087
Date: August 23, 2006

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as our correspondence address.**